IN THE CLAIMS

This listing of claims replaces all prior listings:

1. (Currently Amended) A solid state image pickup device comprising:

a semiconductor region ~~formed~~ on a substrate, said semiconductor region having an upper and a lower face;

a plurality of photo-sensors on the upper face of the semiconductor region;

a transfer register ~~extending~~ which extends in ~~the~~ a vertical direction and ~~formed~~ is located in the semiconductor region and which transfers signal charges accumulated in said photo-sensors; ~~and~~

an impurity region ~~continuously formed~~ which extends across substantially the ~~entire~~ entirety ~~region~~ of the semiconductor region from one end of the semiconductor region to an opposite end of the semiconductor region in a direction orthogonal to the transfer direction of said transfer register; and

a channel stop region which is separate from said impurity region and has a higher impurity concentration than that of the impurity region,

wherein,

said impurity region is provided ~~at a position~~ between those of said photo-sensors which are adjacent to each other along the transfer direction of said transfer register in the semiconductor region, and

said channel stop region is located between said photo-sensors adjacent to each other along the transfer direction of said transfer register in the vicinity of the surface of said semiconductor region.

2. (Currently Amended) The solid state image pickup device as set forth in claim 1, wherein said impurity region is ~~formed at a position in~~ located closer to the lower face of the semiconductor region ~~deeper~~ than said transfer register.

3. (Currently Amended) The solid state image pickup device as set forth in claim 1, wherein a plurality of said impurity region portions are ~~formed~~ in the semiconductor region.

4. (Cancelled)

5. (Currently Amended) The solid state image pickup device as set forth in claim 1, further comprising an overflow barrier ~~formed~~ between the semiconductor layer and said substrate,

wherein,

said overflow barrier is in a projected and recessed shape at an interface thereof in the direction of said substrate, and

a projected portion of said projected and recessed shape is disposed at a position corresponding to a position between said photo-sensors.

6. (Currently Amended) The solid state image pickup device as set forth in claim 1, wherein in addition to said impurity region portion, a first barrier region portion comprised of an impurity region ~~is provided at a position~~ between said photo-sensors adjacent to each other in the transfer direction of said transfer register and ~~shallower relative to~~closer to the upper face of the semiconductor substrate than said impurity region portion ~~as viewed from the semiconductor region~~.

7. (Currently Amended) The solid state image pickup device as set forth in claim 1, further comprising a second barrier layer comprised of an impurity region portion ~~formed~~ along said transfer register.

8. (Currently Amended) The solid state image pickup device as set forth in claim 7, further comprising

an overflow barrier ~~formed~~ between said semiconductor region and the substrate, wherein,

said overflow barrier is in a projected and recessed shape at an interface of said photo-sensors and said transfer register, and

a projected portion of said projected and recessed shape is disposed ~~at a position corresponding to a position~~ between said photo-sensors.

9. (Currently Amended) The solid state image pickup device as set forth in claim 5, wherein the impurity concentration of said impurity region portion is higher than that of the impurity concentration of said overflow barrier ~~in impurity concentration~~.

10. (Currently Amended) The solid state image pickup device as set forth in claim 8, wherein the impurity concentration of said impurity region portion is higher than that of the impurity concentration of said overflow barrier ~~in impurity concentration~~.

11. (Currently Amended) The solid state image pickup device as set forth in claim 7, wherein said impurity region portion and said second barrier region portion are ~~located at~~ the same distance from the lower face of the semiconductor substrate ~~depth~~.

12. (Withdrawn) A solid state image pickup device having an image pickup region comprised of a plurality of photo-sensors and a transfer register for transferring signal

charges accumulated in said photo-sensors, said image pickup region formed on the face layer portion side of a substrate, wherein said solid image pickup device further comprises an impurity region portion formed in said substrate continuously with a position between said photo-sensors adjacent to each other in the transfer direction of said transfer register.

13. (Withdrawn) The solid state image pickup device as set forth in claim 12, wherein said impurity region portion is formed at a position deeper than said transfer register as viewed from the face layer portion side of said substrate.

14. (Withdrawn) The solid state image pickup device as set forth in claim 12, further comprising a second barrier region portion comprised of an impurity region formed along said transfer register.

15. (Withdrawn) A method of manufacturing a solid state image pickup device, comprising the steps of:

forming on the face layer portion side of a substrate a plurality of photo-sensors and a transfer register for transferring signal charges accumulated in said photo-sensors; and

forming an impurity region portion continuously in said substrate at a position between said photo-sensors adjacent to each other along the transfer direction of said transfer register.

16. (Withdrawn) The method of manufacturing a solid state image pickup device as set forth in claim 15, wherein

said impurity region portion is formed at a position deeper than said transfer register as viewed from the face layer portion side of said substrate.

17. (Withdrawn) The method of manufacturing a solid state image pickup device as set forth in claim 15, wherein

a plurality of said impurity region portions are formed in the depth direction of said substrate.

18. (Withdrawn) The method of manufacturing a solid state image pickup device as set forth in claim 15, further comprising the step of forming an overflow barrier in said substrate on the deep layer portion side relative to said photo-sensors and said transfer register, wherein said overflow barrier is in a projected and recessed shape at an interface thereof in the depth direction of said substrate, and a projected portion of said projected and recessed shape is disposed at a position corresponding to a position between said photo-sensors.

19. (Withdrawn) The method of manufacturing a solid state image pickup device as set forth in claim 15, further comprising the step of forming a first barrier region portion comprised of an impurity region at a position between said photo-sensors adjacent to each other along the transfer direction of said transfer register and deeper than said impurity region portion as viewed from the face layer portion side of said substrate.

20. (Withdrawn) The method of manufacturing a solid state image pickup device as set forth in claim 15, further comprising the step of forming a second barrier region portion comprised of an impurity region along said transfer region.